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Before the Federal Communications Commission Washington, D.C.



In the Matter of) CC Docket No. 94-102	
) 00 Docket 110. 34-102	
Revision of the Commission's Rules)	
to Ensure Compatibility with) RM - 8143	
Enhanced 911 Emergency Calling Systems)	

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Reply Comments of AirTouch Communications

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SUMMARY

The record in this proceeding does not support the approach proposed in the Notice of Proposed Rulemaking. An approach based on regulatory mandates may lead to the wasteful use of resources by both the wireless industry and the public safety community, and may not result in the improvement of public safety. Because of the competitive nature of the wireless industry, the marketplace can be counted upon to provide needed improvements in the provision of access to emergency services in a cost-effective manner.

The record shows a lack of data upon which the Commission might rightly base specific solutions and timelines. The requirements of emergency service providers are not consistently and thoroughly presented. There is an absence of consensus, even among emergency service providers, about the appropriate goals of an enhanced wireless 911 system.

The technologies needed to carry out the Commission's proposals are in their infancy. The existing data about costs and operating characteristics are inadequate and untested. Regulatory mandates will do nothing to accelerate the process of technological development that is underway to improve wireless access to enhanced 911 services. The Commission can best meet its goals by maintaining an active role in the ongoing cooperative efforts between emergency service providers and the wireless industry.

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Reply Comments of AirTouch Communications

I. Introduction

AirTouch Communications, Inc. ("AirTouch") fully supports the Commission's objectives in this proceeding to improve the safety and security of wireless communications customers.\(^1\) As evidenced throughout the comments filed, however, the approach proposed in the Notice of Proposed Rulemaking ("NPRM") may lead to the wasteful use of resources by industry and the public safety community, and not to an improvement of emergency services. In contrast, because of the competitive structure of the wireless industry, its pace of technological change, and the diverse needs of its consumers, the marketplace

¹ AirTouch is a company providing wireless services, including cellular, paging, and vehicle location throughout the U.S., and in many of the world's top markets.

can be counted upon to provide needed improvements in a cost-effective manner.

As the Commission has previously recognized, regulatory solutions are often unnecessary to achieve network improvements directly serving customer needs.² Access to basic emergency services is made widely available today by wireless carriers because consumers demand the security such access provides. Enhanced features such as automatic location capabilities will become available on a widespread basis to the degree the costs of providing such capabilities do not outweigh the benefits. Reliance on the competitive market is a far better mechanism to achieve an appropriate cost/benefit balance than reliance on Commission mandates. Because consumers have choices among competitive CMRS providers, they will subscribe to those services that give them the services they value at a price they are willing to pay.

To the degree the Commission imposes mandatory requirements and timelines, it is essential the Commission carefully assess both the costs and benefits of various approaches and alternatives.³ Based upon the record

² See, e.g., In the Matter of Implementation of Sections 3(n) and 332 of the Communications Act, Regulatory Treatment of Mobile Services, (GN Docket No. 93-252) 9 FCC Rcd 1411 (1994) at para.19, 24.

³ Cost benefit analysis is consistent with precedents established in other Commission proceedings. <u>See, e.g., In the Matter of Billed Party Preference for 0+ InterLATA Calls</u>, (CC Docket No. 92-77) 9 FCC Rcd 3320 (1994) (emphasis added) "Therefore, before issuing a final decision, we invite parties to comment on our analysis of the benefits and costs of BPP. We will mandate BPP <u>only</u> if we conclude that, as indicated by the current record, its benefits outweight (sic) its costs and that these benefits cannot be achieved through alternative, less costly measures." at p.2.

developed thus far, AirTouch believes the Commission has insufficient data regarding either the value to consumers of the significant system-wide changes proposed by the Commission, or the overall costs and feasibility of such changes. In light of the many uncertainties that exist, and the cooperative activities currently underway involving manufacturers, service providers, and public safety agencies, the Commission need not issue mandates and timelines, but rather should monitor the market's progress in improving delivery of emergency services. Only in the unlikely event the market fails to respond appropriately should regulatory actions be required.

In evaluating the results achieved by the CMRS marketplace regarding the provision of emergency services, the Commission should not have as its goal the re-creation of the wireline 911 system.⁴ The wireless telecommunications system is an entirely different system than wireline, with inherent strengths and advantages, including mobility and survivability. In developing enhancements to the 911 system, the industry and the public safety community should be encouraged to capitalize on these strengths and advantages.⁵

⁴ See, e.g., NPRM at para.37.

⁵ The 911 system was designed for a wireline system. It did not include in its configuration the unique characteristics of wireless technology, including the fact that RF signals are not limited to established political boundaries. See, e.g., CTIA Comments at p.3.

Contrary to some views expressed by representatives of the public safety community,⁶ the advent of wireless telecommunication has greatly improved public safety. Because more phones are in use on the nation's highways to report traffic accidents, for example, many more incidents are being reported more quickly, thereby saving lives as well as property.⁷ Safety on the nation's roads has improved because of the widespread availability and use of reasonably priced wireless telecommunications. In fact, the marketplace has responded to these needs by encouraging the growth of cellular pricing plans specifically designed to give occasional users access to emergency services. Similarly, manufacturers have responded to these marketplace demands by designing smaller, reasonably priced "pocket" phones that facilitate calls being made "anytime, anywhere."

It was not many years ago that crime victims and witnesses to traffic accidents and other mishaps had to first locate a public or other landline phone to have access to any assistance. As noted in the APCO/NENA/NASNA Comments, "...the increasingly mobile public now has the ability to report suspicious activity, crimes in progress, traffic accidents, drunken drivers, domestic violence, sporting accidents, etc. to public safety dispatch centers." This is an unambiguously positive development in the level and quality of public safety.

See, e.g., Comments of APCO, NENA, NASNA at p.3 (emphasis added) ("...the explosion of wireless services is increasingly leading to degradation of 9-1-1 service.")

⁷ See Chicago Tribune, "A Call to Action," November 27, 1994.

⁸ Comments of APCO, NENA, NASNA at p.31.

The phenomenal growth in mass market mobile voice services has been matched by a similar explosion in dispatch, data, messaging, and location services.⁹ Because services will vary in terms of coverage area, roaming capabilities, reliability, ease of use, technical capabilities, and price, creating a single plan for enhanced 911 service access is neither appropriate nor beneficial. Consumer education has become a key component in improving the delivery of 911.¹⁰ As the market grows more complex, service providers have increased responsibility for customer awareness of the limitations and alternatives for reaching emergency services. A Commission requirement that CMRS licensees clearly communicate 911 capabilities of their services will meet both the Commission's goals and the needs of consumers.

⁹ See, e.g., In the Matter of Implementation of Sections 3(n) and 332 of the Communications Act, Regulatory Treatment of Mobile Services, (GN Docket No. 93-252) 9 FCC Rcd 1411 (1994): "We believe that this opportunity will translate into consumer demand for a variety of mobile services..." at para.27.

¹⁰ AirTouch supports the suggestions of numerous commenters that there are many ways for carriers to better inform their customers about access to 911, including clearer and more informative statements in customer manuals, bill inserts, contracts, and other marketing and communication tools. See, e.g., PCIA Comments at p.25; Northern Telecomm Comments at p.51.

II. Mobile satellite services should be excluded from this rulemaking.

AirTouch supports the views of numerous providers of mobile satellite services ("MSS") commenting in this proceeding that the Commission should exclude MSS systems from any enhanced 911 compatibility requirements that may be adopted. Application of enhanced 911 requirements to MSS systems is inappropriate and impractical, and could delay availability of these important services.

AirTouch is a limited partner in Globalstar, an entity formed to coordinate international service for a proposed low earth orbit ("LEO") MSS system to be operated by Loral/Qualcomm. Globalstar services will include voice, data, fax, and position location services. AirTouch intends to provide MSS services through Globalstar in the U.S., and has a direct interest in the service rules developed for LEO systems.

Globalstar service will be provided through a constellation of 48 satellites, interconnected to public switched telephone networks through "gateway" earth stations. Each gateway will cover areas including many states in the U.S. and will cross U.S. borders. Because the areas served by each gateway will be large,

¹¹ <u>See</u> Comments of Comsat at pp. 3-9, Motorola at pp. 2-9; TRW at pp. 2-7; Constellation Communications at pp. 1-3; and AMSC at pp. 6-8.

massive data bases, including tens of thousands of local jurisdictions, would be needed to route 911 calls to the nearest PSAP. This would be a significant burden on operational systems, and a significant cost for carriers and consumers alike.

Given that LEO satellite services are complementary to terrestrial network services, there is no need to create enhanced 911 capabilities for satellite services. Subscribers to Globalstar are likely to use dual-mode handsets that will enable callers to access local cellular or PCS systems first, and switch to satellite communications only if land mobile services are unavailable. As a result, Globalstar customers will generally have access to the 911 capabilities of terrestrial networks and need not rely on the global satellite network to provide them.

As discussed previously, it is consistent with the development of a wide range of diverse wireless services that one service should not be expected to fully duplicate the capabilities of another. While LEO systems can provide telecommunications access to remote areas that would not otherwise have wireless services, making enhanced 911 capabilities available via LEO satellite systems is inefficient. There are lower cost alternatives available to consumers.

¹² <u>See Big LEO Report and Order</u>, 9 FCC Rcd 6010 (1994) recognizing that LEOs need not be required to offer search and rescue or disaster response communications, other than those relating to maritime distress, in light of other options available to provide such service.

The diversity of the marketplace will ensure customers have a variety of options for improved security throughout the world.

Emergency services are inherently local in nature, with callers seeking fire, medical, or law enforcement assistance.¹³ The Globalstar market is worldwide, and will seek subscribers from all countries in which it is licensed to provide service. Many Globalstar callers in the U.S. are likely to be international travelers unfamiliar with domestic 911 services. It is inappropriate to impose requirements on MSS systems which are of no benefit to U.S. subscribers outside the U.S., and of little benefit to international customers in the U.S., yet which would have a negative impact in the design, timing, and cost of operation.

Consistent with their international nature, MSS systems should be subject to procedures and protocols adopted through such forums as the International Telecommunications Union ("ITU"), which have been created specifically to address the need for international rather than national standards. ¹⁴ ITU forums can take into account standards and capabilities adopted by terrestrial systems in all countries and incorporate such features in future generations of MSS systems as the wireless industry evolves.

¹³ See, e.g., TRW Comments at p.3.

See Comsat Comments at p.9. Globalstar is already required to meet the obligations relating to maritime distress, including international waters, under Sections 321(b) and 359 of the Communications Act.

III. The record in this proceeding provides insufficient data on which to proscribe specific solutions and timelines.

The comments show that adequate data does not exist for the Commission to impose its proposals, and that the proposals themselves have not been adequately formulated. There are conflicting and materially incomplete data and, therefore, any decision to impose a regulatory solution on the wireless industry would be arbitrary and capricious. Similarly, there are significant risks and costs to both the public and the industry if the Commission were to proceed in the absence of more complete information.

A. The requirements of emergency service providers have not been substantiated.

The needs of the public safety community regarding wireless services are far from clear. The public safety community has not provided to the Commission or the public the data necessary to adequately analyze the issues addressed in their fillings. To support their concerns, they instead rely on selective anecdotes. The Commission must obtain objective nationwide statistics on the use of emergency telecommunications systems. Absent data to verify public safety priorities or the specific problems the industry and the Commission are trying to

¹⁵ See, e.g., ALLTEL Comments at p.2, Rural Cellular Association Comments at p.5.

address, the Commission risks implementing wasteful solutions which may fail to substantially improve the delivery of 911 services to wireless customers.

This lack of clarity is vividly illustrated in contrasting the Pertech America Comments, based on a nationwide survey of emergency service providers, with the APCO/NENA/NASNA Comments, the comments of certain individual public safety agencies, and a recent survey of NENA and APCO members. In the Pertech survey, only 37 percent of respondents answered they believed three-dimensional location capability was essential for indoor settings, while only 14 percent believed it was essential for outdoor settings. In direct contrast, the APCO/NENA/NASNA comments list 3-D location as a top priority. In a separate survey, 68 percent of NENA and APCO members indicated a preference for call-back number over approximate location information.

With regard to location address, the Pertech survey shows respondents did not want address data in latitude/longitude form.¹⁹ Yet, comments filed by individual public service agencies indicated a different preference.²⁰ Clearly, the

¹⁶ See Pertech Comments, Appendix p.9.

¹⁷ See APCO, NENA, NASNA Comments at p.40

¹⁸ See AT&T Comments at p.31.

¹⁹ See Pertech Comments, Appendix at p.11.

²⁰ See City of Marietta Comments at p.3; NENA Georgia Chapter Comments at p.3.

Commission and the wireless industry do not have a clear and specific understanding of the 911 priorities of even the public safety community.

In addition, PSAPs and their communities may have legitimate priorities other than enhancing their 911 services. Many state and local governments and emergency service agencies do not have the funds necessary to upgrade their PSAPs to employ the enhanced features proposed by the Commission. Even those that have the funds may feel they are better spent by hiring additional police or emergency personnel, upgrading emergency response equipment, or upgrading the wireline side of their 911 system. Upgrading the wireless component of the 911 system may be a lower priority when compared to other responsibilities.²¹

There is also no agreement on wireless 911 call volumes. Public safety providers have commented that wireless 911 calls overwhelm their system capacities,²² while others do not see the volume as significant.²³ A clear understanding on this point is important for the Commission to properly assess the tradeoffs that must be made in improving service delivery, and whether any regulatory involvement is warranted.

²¹ See Southwestern Bell Comments, p.6.

²² See, e.g., Sacramento Bee, "Cellular Callers Clog 911 System," July 10, 1994.

²³ See Consumers First at al. Comments at p.6 ("We are mindful of the costs of mandated 911 service. But, we do not believe that mandating 911 service without regard to prior service contract presents a significant cost to cellular carriers. The amount of 911 usage is not great.") (emphasis added)

For example, a feature such as call priority is only of benefit if a given wireless system is operating at capacity. As long as channels are available, 911 calls will be sent real-time. Because of new spectrum allocation and the advancement of digital technology, capacity in wireless systems is increasing rapidly. This capacity expansion would render a complex, federally mandated, high-cost call priority system unnecessary. Additionally, the Commission's proposal fails to address the capacity of the landline link from the wireless system to the PSAP.²⁴

The ability of a wireless 911 caller to seize a radio channel does not guarantee a 911 operator will be available to answer the call. Call prioritization within a wireless network is useless unless public safety agencies are able to accommodate the calls. AirTouch operating data show radio-frequency (RF) problems are seldom encountered by our subscribers during 911 calls. The most common complaint of customers is that calls ring (i.e., are completed) but go unanswered because public agencies cannot adequately staff their 911 switchboards. The call-handling capability of PSAPs, not the wireless component of the system, appears to be the process bottleneck. Therefore, full coordination of all system components is necessary prior to the imposition of any regulatory requirements.

²⁴ See AT&T Comments at p.27; Ericsson Comments at p.4; Pacific Bell et al. Comments at p.4.

B. The Commission has insufficient information to require ALI, given the early stage of development of location technologies.

Numerous commenters have noted the immature state of technological development for location capabilities. ²⁵ Given the uncertainty about the ability of these technologies to deliver the capabilities outlined in the NPRM, there is insufficient basis for the Commission's proposed rules and timelines.

As noted by many commenters, the technologies outlined in the Driscoll survey are neither fully developed nor tested for consistent, reliable use.²⁶ AirTouch's most current information on location technologies, some of it acquired under non-disclosure agreements with manufacturers, and therefore more likely to be candid and current than public comments, indicates that even many of the most promising technologies will require years of development and testing before their commercial viability can be determined. The Commission must recognize the industry is years away from fully developing, testing, and deploying location information technologies.²⁷

System capabilities are far from clear. In some comments filed by manufacturers, initial forecasts of quick and inexpensive technological

²⁵ See CTIA Comments at p.7; AT&T Comments at p.26; Bell Atlantic Comments at p.9.

²⁶ See Motorola Comments at p.15; Ameritech Comments at p.8; BellSouth Comments at p.14.

²⁷ See NYNEX Comments at p.14; GTE Comments at p.16.

breakthroughs are later virtually smothered in caveats exempting their performance standards from harsh or difficult environments, such as dense urban areas where emergency services are most likely to be needed.²⁸

Performance standards based on still-developing technologies are risky.

The Commission cannot ensure these technologies will continue to develop, much less at a pace which ensures compliance with any mandated timelines.²⁹

The uncertainty associated with both capabilities and technologies is likely to result in a regulatory choice involving inappropriate or sub-optimal technology. Rushing to set arbitrary deadlines is likely to result in the deployment of an inferior and untested technology, and sacrifice a more desirable approach achievable with additional research and trials.³⁰

IV. The Commission lacks necessary information about the costs of its proposals, which are likely to be prohibitive.

In addition to the uncertainties regarding the benefits of call queuing, outof-band signaling, call return, and automatic location identification, substantial and reliable cost data about the Commission's proposals are also lacking. Given the

²⁸ See, e.g., Terrapin Comments at pp. 1, 5.

²⁹ See GTE Comments at p.16.

³⁰ See AT&T Comments at p.20; ALLTEL Comments at p.2; Westinghouse Comments at p.7.

nascent state of technology development for the wireless network upgrade proposed by the Commission, it is impossible to realistically estimate what these costs are likely to be. ³¹

Pursuing the Commission's proposal will likely impose significant burdens on manufacturers and service providers alike, causing operating costs to rise. If they occur, these cost increases will result in higher equipment and service prices for consumers.³² In addition, because the specific features of the Commission's proposal are not yet known, it is impossible to realistically estimate how high these costs are likely to go. There is, of course, little information as to the expenses associated with meeting the requirements of some yet to be specified standard. In the absence of this information, AirTouch concurs with numerous commenters that evaluation of the costs and benefits of imposing E911 requirements on wireless carriers would be premature. ³³

This uncertainty is particularly acute, and the consequences particularly problematic, in relation to the Commission's proposal regarding location capabilities because the technologies to deliver such capabilities are still in an embryonic stage of development. None of the comments filed regarding the

³¹ See ALLTEL Comments at p.4; Siemens Rolm Comments at p.5.

³² See US West Comments at p.4; NYNEX Comments at p.9; Ericsson Comments at p.4; E.J. Johnson Comments at p.2.

³³ See ALLTEL Comments at p.4; Siemens Rolm Comment at p.5.

NPRM was able to adequately quantify, based on realistic working field trials, either key operating characteristics or costs of the location technologies necessary to achieve the Commission's proposals.

Mandates establishing priority and re-ring/call-back capability for all 911 calls could also result in substantial, high costs to service providers and subscribers alike.³⁴ Costs could include software upgrades on all switches, changes in roamer registration procedures, or handset changes.

There is harm to the public from these substantial costs and uncertainties. As the price of equipment and service increases, fewer people will be able to afford the acquisition of wireless equipment and services. This increase in price, and the resulting consumer loss of consumer utility is, in and of itself, a real social harm. Further, the social value of the wireless system in emergencies is in part a function of the number of users. This value is demonstrated by the fact that 97% of cellular public safety calls are reported to be Good Samaritan calls.³⁵ Public safety is enhanced as the number of wireless users available to report emergencies increases. As prices increase, the overall consumer and social utility decreases because the number of users decreases.

³⁴ See Ericsson Comments at p.4, Motorola Comments at p.19; Pacific Bell et al. Comments at p.4.

³⁵ See Southwestern Bell Comments at p.3.

A premature decision resulting in costs greater than benefits does not serve the public interest. If units and service are unaffordable to more consumers, consumer safety will be reduced because fewer incidents would be reported, or incidents would be reported more slowly. Making a premature ruling in this matter could result in a reduction in public safety.

The Commission states users of voice mobile radio services today reasonably expect to have access to emergency services through 911.36 Through this assumption and its discussion of user location information in the provision of emergency services, the Commission fails to take into account the dynamic and diverse nature of wireless services today. Under the competitive model established by the Commission for wireless services, SMR, cellular, PCS, paging, mobile satellite, and unlicensed systems are all working to differentiate their services and attract new customers. The Commission's intervention in the competitive marketplace is wholly inconsistent with its commitment to market forces as the most efficient and effective means of modernizing the telecommunications infrastructure and assuring a wide range of new services.

Customers of wireless voice services now have, and will increasingly have, a wide range of services from which to choose. Location capabilities are under development for any number of commercial applications, including neighborhood-only PCS plans, enhanced billing services, navigation, theft recovery, locating

³⁶ See NPRM at para.37.

missing children, remote inventory controls, search and rescue, and fleet dispatch.³⁷ Some services will incorporate the latest data and FAX capability, perhaps with international roaming capabilities, custom calling features, and adjunct conveniences. Other wireless services may permit voice communications only in pre-specified areas such as neighborhoods or stadiums. As they become commercially available, location capabilities may become incorporated in any number of ways: to provide information services such as real-time directions and traffic reports, to enable location-based billing services, or to improve call processing capabilities on a network. The combinations should be dependent, not on regulatory fiat, but on consumer preference. By letting the market drive the development, demand, and value of system capabilities, the Commission can ensure the most rapid and efficient deployment of such improvements.

The capabilities called for in the Commission's proposal will, over time, come to the market more efficiently if driven by market forces without incurring the unnecessary costs of regulatory mandates. In the competitive wireless marketplace, consumers also have a choice about the degree of emergency services access they want. Wireless emergency services will and should run the gamut from basic wireless 911 service to panic button service with full location mapping. By requiring that every wireless network have the ability to identify the

³⁷ For example, AirTouch Teletrac provides a location service through a stand-alone system (operating in the 902-928 MHz band). The calculation of location happens within seconds, and is accurate to within 100 feet. Teletrac offers a fleet tracking service to improve business efficiency, a stolen vehicle recovery service, and a panic button service to be used in emergencies.

location of a wireless terminal used to make a 911 call, the Commission is restricting the choice of consumers (i.e., the competitive marketplace) to determine the value they place on such a function.

V. Active Commission participation in forums involving industry and public safety will best meet the Commission's goals.

To best meet its objectives, the Commission should encourage compatibility of wireless and public safety systems through the standardization of protocols and interfaces, building upon work already underway through the JEM process, and other forums.³⁸ An industry-driven solution, actively monitored by the Commission through participation in meetings, review of periodic reports, or establishment of an industry advisory committee, will yield the most economically and technically rational results. Such a coordinated process will best address the broad range of issues involved in the provision of emergency wireless services.

AirTouch supports the process set forth by PCIA to evolve wireless 911 services as the market matures.³⁹ There is a need to better define and test

³⁸ See Joint Experts Meeting Report, (November 2, 1994), See also NPRM at para.48; Comments of APCO, NENA, NASNA at p.33; Comments of US West at p.7; Comments of GTE at p.7.

³⁹ See PCIA Comments at p.15.

technologies in an environment of consensus and cooperation to ensure the most efficient allocation of resources. Commission endorsement of such an inclusive effort will best serve the public interest.

VI. Conclusion

AirTouch supports improving the safety and security of wireless customers by the enhancement of wireless 911 services. The record in this proceeding, however, provides insufficient data on which to base specific solutions and timelines. The Commission's goals would be best served by its active participation in continuing industry and public safety cooperative efforts.

Respectfully submitted,

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March 17, 1995

CERTIFICATE OF SERVICE

I, Kathy Delgado, hereby certify that copies of the foregoing Reply Comments were served by first-class mail, postage prepaid, this 17th day of March 1995, on the parties listed on the attached service list.

Kathy Delgado